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ABSTRACT

This examination of the interaction of education with social and technological change in countries of Asia and the Pacific region addresses three major topics: societal change and education, the response of societies to change, and personnel profiles and training plans. Two types of change are detailed: social change and scientific and technological change, and specific examples of each are listed. Education is called upon to become future oriented, as well as comprehensive, and to begin redesigning educational systems to respond to changes in society and technology. Examples of the redesign of portions of the educational systems of Nepal, Tasmania, and the Republic of Korea are given. The importance of educational personnel as change agents is stressed, and relationships between specific educational changes and their implications for personnel are given. Also discussed are the effects of technological change on personnel from the Philippines, New Zealand, Pakistan, and Japan. Principles for determining personnel needs are identified, with attention given to teaching-learning services, curriculum services, policy development, and management services and school-community relations. Suggestions for personnel training programs are also included. (JB)

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Asian Programme of Educational Innovation for Development

APEID

SOCIAL AND TECHNOLOGICAL INTERACTION WITH EDUCATION

- Redesigning Structures
- Preparing Personnel

Phillip Hughes

Occasional Papers No. 13

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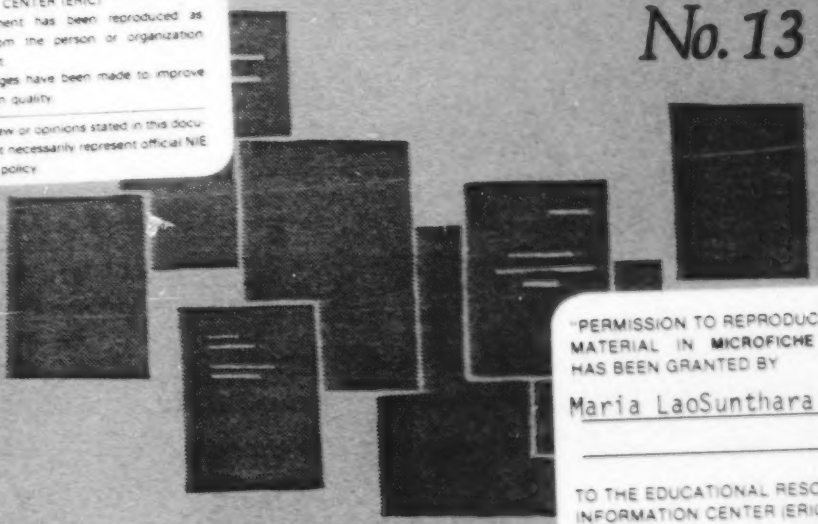

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PREFACE

This Occasional Paper is an outcome of an important series of initiatives of APEID, taking place over a substantial period. It deals with major national and international issues, such as the interaction between social and technological change and education. It considers the desirability of structural changes and of the associated needs for educational personnel. In treating such large-scale concerns, the endeavour here, as in the activities leading to this paper, is to retain, as the central point, the students whose learning and development is the real reason for all this thought and activity.

The initial meeting to set these activities in motion was the 1980 regional seminar, New Personnel Profiles in Relation to Changes in Society and Educational Systems. Following that seminar, the participating countries were invited to carry their thinking further, to make a critical survey of the Regional Seminar report and to give a brief national survey of relevant research and evaluation. These papers formed the basis for the regional design meeting of 1982, Social Change and Training of Educational Personnel, a meeting which involved eleven countries. Since that meeting, national initiatives have begun in a number of the participating countries. ACEID felt that it was important to bring the issues of the meetings, and those raised by later initiatives, to the attention of the countries of the region. For this purpose, it has invited Prof. Phillip Hughes of Australia, chairman of the Regional Design Meeting, to write this Occasional Paper, as an indication of the relevance and value of the issues raised.

ABOUT THE AUTHOR

The author of this paper, Phillip Hughes, is Professor of Education and Dean for Education, University of Tasmania. The Centre is one of six APEID centre in Australia. Phillip Hughes had his initial education in Tasmania, and pursued post-graduates studies and research at Oxford University, the University of Illinois and the University of New England. He taught in secondary schools, technical colleges and at university in mathematics and in education, before moving to education administration to set up a state curriculum branch. He became Deputy Director-General of Education in Tasmania. He was later Foundation Head of the School of Teacher Education, Canberra College of Advanced Education, Foundation Chairman of the A.C.T. Schools Authority Canberra. He has worked in Fiji, Papua New Guinea, Singapore, Malaysia, Kenya, U.S.A. and the United Kingdom and is currently chairman of the National Development Group of APEID for Australia.

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SOCIETAL CHANGE AND THE IMPLICATIONS FOR THE ROLE OF PERSONNEL IN EDUCATION

Introduction: The personal equation in education

When we think of education, we think of many things. We think of schools and classrooms; of books and equipment; of organizations. Yet we know that the central aspects of education is, and will remain, the personal factor. The key relationship is that between teachers and students.

The quality of the interaction between teachers and students depends in its turn on other personal interrelations. Teachers need to be trained for their important task. They need further education throughout their careers. Both the initial preparation and the later professional development require a variety of specialist support. Teacher education needs people who are prepared in the subject content of teaching; in the understanding of how people develop, are motivated, and learn; in how the curriculum may be organized, presented, and evaluated.

A further range of people is involved in curriculum support for the schools. Curriculum development specialists, media specialists, evaluators, are needed if an education system is to develop good curricula. As teachers become better trained, much curriculum work can be done at school level, but curriculum research, the development of guidelines and syllabuses, the production of curriculum materials, the provision of support to schools and teachers require well-trained and adaptable resource people.

Equally, the planning and operation of a large organization such as an education system requires much specialist knowledge and skills on the part of educational administrators. The development of educational policy, liaison with other departments, liaison with the community, educational and financial planning, budgeting, organizational development, evaluation: these are all important requirements which can no longer be learned "on the job". It is no longer sufficient to expect a good teacher or a good administrator in another area to be able to widen their skills automatically to take on the responsibilities of administering schools.

It would be difficult enough to identify the different needs of all these groups and to prepare for them if education was a

stable process, not undergoing rapid change. That is not so. Massive and fundamental changes have become a continuing part of our societies in recent years. Schools are only just beginning to adjust to the changes in their societies: changes in knowledge, in technology, in employment patterns, in industrial organization, in economic operations, in social patterns as well-based as the family, in customs and beliefs. It is clear that different organizational forms will be required for education and different ways of working. In all these changes, the personal factor will still be crucial as it is in the day-to-day operations of schools. If we are to have schools and education systems which continue to serve key requirements of our societies, it is essential that we should consider the roles required for the people who are needed to make schools effective. It is also essential that we consider the means by which we help people to achieve those roles.

1. Societal change and education

1.1 The extent and nature of change

a) "... the role of education becomes extremely important (in the context of change). But this role can be performed only if the education system is made socially relevant, changing the curricula, changing the internal structure of institutions and linking education with the external environment (agricultural, industrial and service sector development), for making it responsive to technological plurality and in short for facing the future world crisis." (Indian Paper, Raza et al, 1983.)

b) "It is necessary for individual enterprises and governments to adapt themselves to the accelerating changes of the latter twentieth century and to make prompt and appropriate decisions of will and choice." (Japanese Paper, Ichikawa 1983.)

c) "... the primary reason for probing the future is not so much to predict but to indicate the future consequenses of present public policy decisions, anticipate future problems and begin the designs of alternative solutions so that our society has more options for choice." (Malaysian Paper, Leong Yin Ching et al, 1983.)

d) "To a considerable degree we need to be involved as much in shaping the future as in attempting to describe it. The future involves changes in demography, in economic possibilities, in the use of resources, in political alignments, in science ... An appropriate approach to the future is a recognition of the limits of the possibilities in the areas of human interest and a determination to utilize these possibilities for the enhancement of the value of human life." (Australian Paper, Hughes, 1983.)

It is significant that as we look at the problems of change confronting human societies, that those societies, looking from different viewpoints, should see the same challenges and opportunities.

We are all surrounded by change. The older people have seen enormous changes in their lifetimes. We can now scarcely imagine a world without cars, without aircraft, with no telephone, radio or television, without antibiotics and advanced medical techniques. The shape and context of our world is different and none of us can escape the suddenness and the impact of the changes that make it so.

Younger people in their future lives will see changes at least as dramatic, probably more so. Science and technology advance. They give us new ways of investigating the world, of using its resources, of healing or hurting one another, of communicating with each other, of entertainment, or production and of work. Attitudes and ways of living will change also.

Particular changes are not inevitable - but the general sweep of change is irreversible. Changes in population, both numbers and distribution, in economic possibilities, in the use of resources, in political alignments, in science and its application: these are just some of the areas in which the shape of the future is altering. The task of all our societies is not simply to be flooded by change, but to accept the chances we have to direct the flow. In particular, we need to analyse the nature of change if we are to have the chance of controlling it, rather than being controlled. Let us consider briefly the effects of two types of change, distinct but interrelated: social change and scientific and technological change.

Social change

The growth of industrialization on a world-wide scale will be a major factor in social change, particularly in its impact on the mainly tropical belt of underdeveloped areas. As has been mentioned world communications networks are such that the effects

of events in one area are felt and responded to, throughout the world. This broadening of impact occurs in many areas:

- Ecology, where the pollution occurring in one region, may have its major effect elsewhere;

- Politics, where decisions and actions in one country immediately affect the world scene;

- Economic problems, which cannot be restricted to a particular country;

- Economic production, which is dependent on the communication patterns of the world, and the demands of many countries.

It is in the inter-relationship of all these areas that the social effects of change are felt. Heilbroner wrote of the effects of economic development as 'the Great Ascent'.

> "The process of economic development ... visible throughout the newly awakened areas ... is a world-wide struggle to escape from the poverty and misery, and not less from the neglect and anonymity, which have heretofore constituted 'life' to the vast majority of human beings. It is not mere rhetoric to speak of this attempted Great Ascent as the first real act of world history. Certainly in size and scope it towers over any previous enterprise of man ... (It) is not merely a struggle against poverty. The process which we call economic development is also, and in the long run primarily, a process through which the social, political and economic institutions of the future are being shaped for the great majority of mankind ... On the outcome of this enormous act will depend the character of the civilization of the world for many generations to come, not only in the poor and struggling nations, but in the rich and privileged ones as well." (Heilbroner, 1963, p. 9).

Some of the effects of these changes will be to increase social disharmony. The gap between people's rising expectations and the ability of governments to deliver will be a cause of dissatisfaction and unrest, leading possibly to revolutionary acts and/or political repression.

A major social issue will relate to employment. The present movement in developed societies has been described as a move to a 'post-industrial' society, or a 'knowledge' society. This is the change from an economy where most people are employed in agriculture, mining, manufacturing, construction and their offshoots. The change is to a society where employment is concentrated in the service sector, in teaching, selling, information processing and distribution, transport, office work and similar tasks. In countries such as Japan, the United States and Germany, almost 70 per cent of employment is currently in such areas. As the use of miniaturized, sophisticated low-cost technology increases, there is a replacement of those involved in repetitive, low-level tasks. Developing countries face the problem in different but equally difficult ways. "The tragedy of the third world lies in the fact that the Industrial Revolution was not allowed to take place therein and the gulf between work and knowledge in the societal set-up of these countries continues to be still quite wide ... Education has to become rooted in work in order to become the education of the future." (Raza et al, 1983.)

A major aspect of social change relates to issues similar to the above, where technology-created problems are created well before societies have means of solution. This applies to many areas where activities that are beneficial in one aspect are harmful in another.

Industrialization causes pollution of the environment, congestion in the cities and a depletion of resources. Medical science reduces infant deaths and brings problems of overpopulation and food shortage. Our task is not to prevent the technological change, but to anticipate its effects and direct it to human benefit.

Science and technology

As indicated above, it is often difficult to separate social change from the changes brought by science and technology. The latter has had such a dramatic effect that it is felt throughout society. The major problem with the advances in science and technology is that our societies have not grappled with the full range of their effects. There is little doubt that the advances will continue. They are necessary if we are to provide all people with better opportunities in their lives. Yet the scale and nature of their use must be controlled.

Some areas where special concerns exist and special efforts must be made are as follows:

- Our industrial systems have caused centralization of population with resulting urbanization and increasingly grim living conditions. New advances make it possible to decentralize technological and industrial development. This could greatly increase both the level of opportunities and the quality of life in rural areas. It would also enable our cities to solve some of their problems.

- Communication developments have made all the world accessible. These developments have been largely dominated by progaganda, either political or commercial. The far-reaching communication patterns now possible could greatly enhance life everywhere, if used for beneficial purposes. Education has much to gain.

- Science and technology have been the province of the politically and economically strong. The development of third-world countries now depends on their use of these areas. That use needs to be developed in ways appropriate to the local culture.

- Continued advances in science and technology depend on the development of a base of research. The investment in people and resources required will be difficult for developing countries, but is most important for them.

- The uncritical acceptance of science and technology in Western countries has brought many problems. The problems must be allowed for by other countries wishing to use these approaches.

- In addition to the need for specialists in science and technology, all countries need a broad education programme to sensitize their populations to the problems as well as the possibilities of these areas. Governments will find it difficult to have long-term solutions accepted if there is not a broad understanding of the issues.

- The careful use of science and technology will open up the possibility of different uses of leisure time. The maintenance and development of indigenous cultures will become even more important to people whose immediate needs can be satisfied. So too will be a knowledge of and respect for other countries.

. Moral awareness and decisions also become more important in a society with a wider range of choices. The concern for education with such issues has always been real but has frequently been incidental and unplanned. Moral education becomes more necessary in the situation which is developing from the wider development and application of science.

1.2 A choice of futures

All of us have an idea of the values which make life worthwhile. Those values reflect our belief in the importance of human life, in the necessity of finding ways to live together peacefully, in the need to share resources equitably, in the worth of such qualities as justice and truth and love. The most difficult task we have as individuals and as societies is to work in shaping our futures so as to retain and enhance those values that make life worthwhile for ourselves and others. One of the basic truths of our world society is that no single group can do this in isolation. Our interdependence is such that if substantial groups are disadvantaged, then all will suffer. Our choices, then, must reflect a willingness to create a more equitable and humane world society and not relate only to more limited interests. This seems an impossibly difficult task. It is difficult. It means harnessing the best that people can do so that our future will make the best of the possibilities inherent in change. Our choices in the present determine what sort of future we will have.

1.3 Implications for education

Education will play a key role in our shaping of the future. It is the inheritor and communicator of what is valuable in our cultures, largely in terms of the creations of the past. These creations are in a variety of fields: architecture, sculpture, painting, poetry, drama, dance, philosophy, mathematics, literature, science and technology. It can act also as a designer for the future. It will, to a considerable extent, form the personal qualities of the generation for whom today's future will be the present. Their knowledge and understanding, their skills, their attitudes and values will, in the final analysis, determine that future. It is education's task to help them to define and develop those qualities. This is not a task only for education. Our religious institutions, our political institutions, our families: these and others play a part, but education has an

unavoidable role. To play this role effectively will mean that education must first evaluate and reshape itself. Education systems are geared to the present, to the maintenance of performance and the solution of current problems. These are all necessary, but they are not enough. We need systems which can look forward, identify needs and priorities and work towards satisfying them.

New needs for personnel

When we talk of education systems, we talk essentially about people. If our systems are to be able to react in different ways, then we need a variety of specialists to initiate and carry out those reactions. The Work Plan of APEID (Unesco ROEAP, 1981) states this need.

> "... professional support services and education and training of education personnel are urgently needed for teacher training institutions, curriculum development centres, educational technology services including resource person of different types, and educational planning and management centres, etc. Capabilities need to be developed also in interdisciplinary research and evaluation, planning and programming of education in relation to other sectors and in the context of desired features and emerging technology of mass communication and education. Links need to be systematically established between education and other sectors so that their facilities and expertise are available for professional growth of education personnel in terms of new competencies such as management of innovation, rural development of health and nutrition. Many countries are concerned about problems in the recruitment and retention of competent educational personnel."

Recognition in the Asian region

The need for substantial action has been recognized widely in the Asian region. In January 1980, APEID sponsored a regional seminar, New Personnel Profiles in Relation to Changes in Society and Educational Systems. The participants in that seminar expressed their agreement on the urgency of the problem and initiated activities to take the planning further through APEID. The result was the Design Meeting on Preparing Personnel Profiles, and Training Content, Materials and Evaluation, held in Bangkok in July-August 1982. That

meeting produced a substantial report and agreed on both local and national initiation to help to implement some of the ideas. This paper takes a further step in presenting the needs to the countries of the Asia and Pacific region. The Design Meeting report made the following comment which is relevant here:

> "It is encouraging, however, that in the workshop such a genuine feeling of commitment and shared purpose should arise. That commitment and purpose will be required more generally. Those who have come to the workshop have achieved a deeper understanding of the perspectives and problem of others. In doing so, their own perspectives and problems have taken on a deeper and more universal meaning. From this sharing comes a commitment to work, not only at the national level but in co-operative ways, to help solve problems which themselves appear at a variety of levels, national and beyond.
>
> We are conscious of a shortness of time. Many urgent needs are apparent, in this region and more widely. Yet, to meet these problems, there is no short-time dramatic solution. There is only the possibility of improvement by careful planning and prolonged effort." (Unesco ROEAP, 1982.)

In the period since the workshop, that commitment and shared purpose has shown itself in a number of national initiatives which are practical examples of what this paper recommends.

2. The response of societies to change

2.1 Need for a comprehensive approach

While societal changes spring from particular factors, such as those identified, their effects are pervasive. They have led to a deep sense of uncertainty, accompanied often by mistrust. The uncertainty is a reflection of changes in life patterns and in values, often disappearing without being replaced by a coherent set of values, which would give meaning and stability. The mistrust relates to a feeling of powerlessness and lack of influence. Many people feel that they have not benefited from the major developments which have occurred and are losing faith in the political process. These feelings make possible the disruptions in a society which come from a variety of dissident groups which are expressing their own dissatisfaction. These expressions have more general impact

where there is a lack of broad consensus on the goals of society. In societies where communication is so swift and pervasive, the conflicts between expectations and achievements, the expressions of mistrust and grievance, exert a broad effect.

In their responses to change, our societies must adopt a comprehensive approach. The interrelations of the problem areas highlight this need. Population growth, medical advances, industrial development, urbanization, pollution, resources shortages, inequities in benefits, increasing unemployment: these all appear as separate issues but impinge on each other. It is not possible to help in the problems related to one area without taking account of the effects in other areas. In fact, our problems have largely arisen because of such single issue approaches. We have assumed that we could pursue technological development, for example, without considering the effects on resources, on pollution and on employment.

The approach needs to be future-oriented as well as comprehensive. Indeed, in our current situation, it cannot be comprehensive without being future-oriented. It is not enough to think of the current effects of polities and activities - the longer-term effects are vital. This applies obviously to an area such as energy use, where countries must develop their production and living patterns in a way which is manageable in terms of their access to energy sources over a substantial period. It is less obvious but equally important in most areas of decisions, where the choices taken have implications that need to be considered over time.

2.2 The redesign of education systems

Education has an important part to play in preparing for a positive attitude to change in our societies. Education can provide knowledge and understanding, can develop skills, can promote attitudes which future citizens will need to cope with the issues to face them. Yet education systems do not tend to be forward looking. In the period of rapid growth in participation, most education systems have had to be oriented to immediate problems: building and enlarging schools, providing equipment and books, training teachers, developing transport. It has been a matter of moving from one crisis of supply to another, with little time to lift the gaze from the immediate issues in order to look ahead.

It will not be easy to change this orientation. Present problems always appear as the most urgent and administrators in education, as elsewhere, understandably devote most of their attention to them. Yet if we cannot look ahead effectively, our education systems will not be able to help in a task vital to our societies. Our problems will grow larger and more intractable because we are dealing with current manifestations rather than long-term causes. Our education systems, like our societies, must develop their capacity to look forward, to anticipate, to help to form the future.

A redesign of our education systems may be needed, if they are to be more effective in policy development for the long term and still retain their capacity to cope with the present. Since it is unlikely that there will be major increases in resources for education, the redesign of education systems will clearly need to make better use of current resources, both human and material.

Some of the aspects of the redesign might be as follows:

Broad discussions at national regional and local levels to determine priorities, if these are not already established. Such discussions are valuable not merely to define priorities but also to obtain general commitment to them. These broad social priorities form a base for agreed goals and functions for education.

Example. In Nepal, discussions at national and local levels emphasized the importance seen in the decentralization of the education system and an increase in the degree of local management of the institutions of education. This involved an Act of Parliament, the Decentralization Act, which spelled out agreements already obtained at the central and local levels. Provision is being made not only to change the form of organization, but to identify the people to be involved and to indicate in some detail the ways of preparing them for their new tasks. The goals and tasks of the organization need to be reflected in its structure and its operating processes. If educational organizations are to be adaptive and innovative, rather than merely reactive, then the structures should be more related to the tasks to be

performed.

Example. A Government-sponsored inquiry into state education in Tasmania sought the views of administrators, teachers and parents on ways in which the organization of education was failing to match its purposes. The response indicated that the organization was too much involved with day-to-day problems to be able to predict and diminish future problems, that it did not provide schools with clear curriculum guidelines and appropriate services and that the budgeting did not relate directly to the priorities. The central department was reorganized into two divisions, Education Programmes and Resources, the latter using programme budgeting to make the financial planning relate directly to the educational priorities. A special Policy Section was developed to advise on policy options, responding to societal change. The responses of education systems to change must be acceptable, in the sense of recognizing the realities of economic, technological and social change. This implies not only the agreement of people concerned but the training of appropriate people for the complex tasks. Highly skilled and well-informed people will be required at various levels of the systems.

Example. In the Republic of Korea, a recent initiative from Yonsei University has concentrated on the development of programmes for educational administrators. This project brought together an interdisciplinary team to identify from research and experience the roles and skills of educational administrators. This identification was used as a base for developing training materials and programmes to familiarize administrators with necessary roles and to develop appropriate skills. Workshops to implement these programmes were devised and evaluated.

- Changes in the education system must involve their links with and relations to schools. It is of little use changing the organization pattern at the system level if schools are not affected. Past research and experience has shown the inadequacy of system decisions in themselves to change substantially the pattern of schools. What is needed is a carefully developed procedure which involves relevant people at the school level in a meaningful evaluation of proposals and

approaches to be considered.

. The information and communication patterns of the system are important, both vertically and horizontally. This permits a broader participation throughout the organization, increasing the use and the value of the available human capacities.

Example. In the Nepal reorganization special account was taken of the need to involve both central and local people in appropriate divisions, for example, the district panchayat (local government) and school management groups were given substantially greater responsibilities.

2.3 The nature of the needs for personnel

A central stress throughout this paper has been that in any response of our societies to change, the role played by educational personnel will be of great importance. No new organizational forms or interrelationships can operate effectively unless the people involved understand and accept the goals and have the skills to implement them. Personal qualities and capabilities are crucial and we should not expect these to exist by chance in people who have come to operate in key positions. The promotion pattern by which those positions were achieved often have little relationship to the requirements of the position, particularly if these are now different from an earlier period.

Some of the initiatives which need to be seriously considered and the implications of these for personnel roles will be mentioned briefly.

Initiative (1). It is increasingly important that education is directed not only towards gaining appropriate skills, e.g., in language and the use of mathematics, but also towards developing a capacity to obtain, to sift and to evaluate information, and to reach rational conclusions based on that capacity.

Implication (1). The training of teachers, both pre-service and in-service, must be designed so as to emphasize the role of teachers as resource people in information search. This is a different role from that of the teacher as instructor and demands

additional skills and resources. It also implies that at least one teacher in every school should be able to undertake the role of 'teacher-librarian' or 'information-specialist', organizing information sources and working with other teachers to make them as widely available as possible.

Example. The Philippine Normal College has been working to produce Educational Personnel Profiles and Training Programme Designs for Pre-Service and In-Service Education in the Philippines, as a means of identifying needed changes in teachers' roles and the means by which they may be developed.

Initiative (2). Education is concerned not only with schooling for the young, but with providing opportunities for those who have lacked schooling and for those in inaccessible locations. Its task is to broaden access and increase the variety of offerings and opportunities.

Implication (2). Informal education will become a more important part of education systems and specially prepared people will be required for the quite different tasks and opportunities which it offers. Distance education will become a more widely used process and its requirement for the use of media, for specially designed materials, again places new demands on people. The fact that the clientele will be quite different also means that informal education will require special preparation, in such areas as adult learning.

Example. Countries such as New Zealand and Pakistan have given the task of organization of distance education to specific universities. Their role is to build up a network of people to present the diverse courses provided. While the early work has been begun by people without special training, the need is now recognized by the development of special courses for distance educators.

Initiative (3). Central to the response of education to new needs is the requirement to reconsider and reorganize the curriculum. A very powerful form for the curriculum in this situation has two distinct aspects:

1) a central core for all, designed to enable full participation as citizens in the necessary social processes;

2) individually directed learning opportunities, to recognize needs, interests, potentialities and capacities.

Implication (3). In such a situation teachers need to operate in quite different ways. They will need to co-operate closely to ensure that their separate studies correlate to support the central core. They will need to individualize their procedures much more for the other aspects, involving the student to a considerable extent in a "negotiation of the curriculum" which recognizes more implicitly the student's characteristics.

Example. In Japan, one of the major universities has co-operated with a number of secondary schools, which are developing curricula of the general type indicated, but differing from school to school. This approach implies the need for much greater curriculum expertise at the school level than would be involved in the initial training. The development of such expertise has become a special function of in-service courses.

In summary, this brief consideration of only a few examples has shown the need to consider a wide range of roles for educational personnel: teachers, principals, teacher educators, curriculum specialists, educational planners, researchers, supervisors, teacher aides, school counsellors, community liaison people. It is essential to our task to identify such needs clearly and to indicate the ways in which the requirements of the role may be clearly defined. This is what is involved in the definition of personnel profiles: it is a detailed identification of needed characteristics, aptitudes, knowledge and skills for the performance of particular roles.

3. Personnel profiles and training plans

3.1 Principles for determining personnel needs

Three questions, in sequence, can be used as a basis to develop a clear idea of personnel needs for particular initiatives in education:

- What particular changes are expected from a policy decision?

- What will be involved in implementing the decision?

- Who can help and in what ways, to develop the detailed descriptions of the needed roles and skills of these people?

The starting point is one of purpose. We have already considered examples from the Philippines, Japan, Australia, Republic of Korea, New Zealand and Pakistan, where a new initiative has been defined. It will help at later stages if the hoped-for results of the initiative can be indicated clearly. It is too easy to lose sight of the purposes envisaged in a proposal, in the complexities of negotiating and implementing it.

Of equal importance is the part to be played by the people involved. At least four groups of people are involved in the implementation of educational policy.

a) Teaching-learning services

The largest element of this group is teachers, but even this element is composed of many different types, kindergarten teachers, science teachers, technical teachers, to take a few of the more familiar. New types are being added, such as school librarians, distance educators. All these are directly involved in teaching or in organizing learning. As curricula change, the requirements for this varied group change with them.

b) Curriculum services

The development of curricula to reflect new ideas, knowledge and attitudes requires a variety of services, and an even greater variety of roles: curriculum designers and evaluators educational technologists, information specialists, teacher educators. They operate at different levels, some nationally and others regionally, some in state institutions, others in private organizations. Again, in many cases the people in these positions currently are there because of selection from some other work, often teaching, and have no particular preparation for what they are doing.

c) Policy development and management services

There are people involved in planning, budgeting and financial control, in the provision and equipping of buildings,

in developing organizations and systems. They are administrators, superintendents, principals.

d) School-community relations

This is a field of growing importance as societies realize the significance of the interaction between schools and community. It involves the promotion of educational developments, the identification of community needs and resources, the organization of services. It will also involve the interaction between education and related institutions, such as scientific organizations and the media.

While these classifications are useful in indicating the range of personnel to be considered, they are too general to help in a particular case. National studies such as those by the Republic of Korea and the Philippines indicate the care required to develop descriptions of particular personnel needs. In the Korean case, for example, a group of experienced and qualified educators reviewed research findings, and the lessons of their own experience in identifying the roles and the competencies needed by senior administrators in a national education system. They then devised training programmes and materials suitable for such a purpose. The final step was to try out the programmes with a selected group of administrators, to enable an evaluation to be made of the success of the various stages.

3.2 The preparation of training programmes

The preparation of training programmes for the roles identified is not always straightforward. The experience of the regular insitutions, the universities and colleges, is often of a different kind. A major part of their concern has been in the initial preparation of teachers, and many countries are recognizing that such preparation may be a good foundation for a career in teaching but does not provide for the whole of it. Experience in the provision of professional development courses for teachers, the courses designed to help during the career, shows that different types of programmes may be necessary.

In particular, it is not enough simply to provide courses and to expect that teachers will feel they are valuable. There is a need for teachers to see the worth of the courses in terms of practical benefits, and not simply because of external incentives such as credit towards a degree, or advantages in promotion.

An example may be given from an experience of preparing teachers to be curriculum evaluators. This is one of the areas which has been widely recognized as necessary if schools are to have the capacity to improve their courses and to report meaningfully on student progress and on the worth of different teaching approaches and materials. The standard evaluation courses have begun with a study of evaluation theory, proceeded to derive evaluation techniques and then continued to assist the participants to solve particular evaluation problems. This approach is not one which has been particularly successful. It appeals to those teachers who already have a reasonable knowledge of the field and leaves the majority largely unaffected. An approach which revises the order has been particularly successful. The Teachers As Evaluators Project of the Curriculum Development Centre in Australia works with small groups of teachers, often in a school setting. It begins by getting teachers to define a problem that interests them, to use as the basis for an evaluation study. The problem may be to improve the mathematics performance of girls in a particular year, to provide better vocational preparation and guidance, to make better use of community resources, to strengthen the programme of pastoral care, to assess the success of moral education. Any of all these makes a useful starting point, and each of the participants is required to decide on one, which may be studied individually or, preferably, in a small group. The problem is studied in a real setting, and the group members are required to decide what they are evaluating, to develop evaluation instruments, and to produce a plan including these aspects, the reports to be made and the possible outcomes in decisions or actions. This has proved to be a very fruitful approach for developing an understanding of evaluation theory, as the need for this arises from the practical situations in which the group is involved.

There is a general lesson to be learned from this example, for the wide variety of training programmes to be developed. The participants are invariably experienced in teaching or administration, or both. It is important to make use of that experience and not to treat the participants as beginners. It is important, too, to make the training situation as real as possible, often using actual situations or role-playing approaches so that the participants develop a feeling for their roles as well as knowledge and capacities.

3.3 What steps can be taken?

Everyone of our countries is facing the demands of social and technological change. It will affect each one differently, according to the circumstances of culture, economic situation, social pressures. Yet it will affect us all. The question for us all is not whether we need to respond to change but how we will respond to it. It is important that our responses are directed to give us the maximum of control over our own futures. Education can play an important part in that response. It can do this to the best effect if our organization is designed for that purpose and if we have a coherent programme aimed at preparing people for the necessary roles.

That may sound difficult in the abstract. Initiatives in the region are already showing the practicality and worth of the approach. We have seen something of the initiatives developed by the Republic of Korea, in the training of educational administrators; the Philippines, in the training of teachers; Japan in the experiment with the secondary curriculum; Australia in training teachers as evaluators, and Nepal in introducing greater decentralization and local community control in education. A variety of initiatives, yet there are features in common. They come from an effort to meet a clearly perceived current problem or future need. They involve a careful study of the educational implications and the associated requirements for personnel. They include specially devised means of preparation of the people involved. Each of them also involves procedures for evaluation of the worth and effectiveness of the initiatives

The aim of this paper is not to recommend an approach that is remote and difficult. It is to point out the urgency of the challenge that faces our societies and to indicate that the major possibility for improvement lies in identifying and developing the most precious of our resources, human capabilities.

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The Asian Programme of Educational Innovation for Development (APEID) has as its primary goal to contribute to the building of national capabilities for undertaking educational innovations linked to the problems of national development, thereby improving the quality of life of the people in the Member States.

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